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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,493	06/29/2001	Tony J. Lee		7230

7590 02/07/2007  
Cook Alex Mcfarron Manzo Cummings & Mehler LTD.  
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EXAMINER
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ZHENG, EVA Y

ART UNIT	PAPER NUMBER
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2611

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/07/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

5K

<b>Office Action Summary</b>	<b>Application No.</b> 09/895,493	<b>Applicant(s)</b> LEE, TONY J.	
	<b>Examiner</b> Eva Yi Zheng	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 November 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 and 6-15 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-15 is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments filed 11/15/06 have been fully considered but they are not persuasive. Examiner has thoroughly reviewed Applicant's arguments but firmly believes that the cited reference reasonably and properly meet the claimed limitation as rejected.

Applicant's argument – a) Prior art by Pozzouli (US 5,982,595) does not disclose "first and second communication channels providing bi-directional protection and control information transmission". b) Pozzouli does not disclose "wherein control of the associated relay output is continuous when the switch transitions between the first and second positions.

Examiner's response – a) Pozzouli disclose fault tolerant communications between protective relays, wherein when fault is detected on a primary channel, communication is switched to a secondary channel. When the fault is removed from the primary channel, communication will switch back to the primary channel from the secondary channel (Col 3, L40- Col 4, L22). As shown in Fig. 1, both primary channel interface (24 in Fig. 1) and secondary channel interface (26 in Fig. 1) are connected to TXRX+ and TXRX-. This is clear indication that the primary and secondary channels both are bi-directional. Moreover, it is clear stated in the specification that "the data ports can transmit and receive data....." (Col 2, L30-33); ".....data to be transmitted to, or received from ....." (Col 2, L42-46). b) Pozzuoli's statement "switching to a secondary channel is performed in less than approximately 1.5 ms" is merely to point

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out that there's a very small amount of time delay between switching channels. It is well-known and common knowledge that there's inevitable time delay when switch change positions. Therefore, it is inherent that the control of the associated relay output is continuous when the switch transitions between the first and second positions, though a small time delay occurs. In addition, Pozzuoli discloses that the transition can continue indefinitely (Col 4, L11-22). Therefore, Pozzuoli meets all the claimed limitations.

### ***Drawings***

2. The drawings are objected to because Fig. 3 lack of control signal indication.

### ***Claim Objections***

3. Claim 1 is objected to because of the following informalities: on line 9, please add: "information" after "control".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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5. Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being unpatentable by Pozzuoli (US 5,982,595).

a) Regarding to claim 1, Pozzuoli disclose a system for communicating protection and control information between a first and a second protective relay operating on respective first and second portions of a power line of an electric power system (Col 1, L 11-20), each of the first and second protective relays monitoring the electric power system (abstract; Fig.1), the system for communicating comprising:

a first communication channel and a second communication channel extending between the first and second protective relays, the first and second communication channels-providing bi-directional protection and control information transmission between the first and second-relays (14a and 14b in Fig.1; Col 2, L30-50);

means for applying the protection and control information (Col 3, L17-40); and a switch at each of the first and second relays (inherent in networked protective relays, Col 1, L11-20) , the switch having a first position such that the protection and control information from the first communication channel controls, an associated relay output, and the switch having a second position such that the protection and control information from the second communication channel controls the associated relay output, selection of one of either the first position and the second position determined by an indication that one of either the first communication channel and the second communication channel is faulty (Col 3, L41-Col 4, L22; Fig.2),

wherein control of the associated relay output is continuous when the switch transitions between the first and second positions (as shown in Fig. 1 and 2).

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b) Regarding to claim 3, Pozzuoli disclose wherein the first and second communication channels are not identical (as shown in Fig. 1).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pozzuoli (US 5,982,595).

Regarding to claim 2, Pozzuoli discloses all the subject matters above except for the specific teaching of the first and second communication channels are identical. However, such limitation is merely a matter of design choice and would have been obvious in the system of Pozzuoli. Pozzuoli disclose a communication system with protective relays transmit and receive signals over a primary communication channel, which switch to secondary communication channel when a fault is detected. The limitation in claim 2 does not define a patentably distinct invention over that in Pozzuoli since both invention as a whole and Pozzuoli are directed to backup communication channel in faulty environment. Whether or not the channels are identical is inconsequential for the invention as a whole and present no new or unexpected results. Therefore, it is obvious to one of ordinary skill in art to have the first and second

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communication channels identical in Pozzuoli. By doing so, provide efficiency and avoid loss of data in transmitting and receiving in communication system.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Pozzuoli (US 5,982,595), in view of Feller (US 2001/0015107).

Regarding to claim 4, Pozzuoli discloses wherein the protection and control information transmitted on the first and second communication channels undergoes filtering (18 in Fig. 1) and logic processing (inherent in 12 of Fig. 1) so that the protection and control information is processed identically.

Pozzuoli discloses all the subject matters above except for the specific teaching of alignment of the channels. However, Feller, disclose a communication system for reliability, wherein the first and second channels comprise phase detector (342 and 344 in Fig. 4A), which detect phase error of the channels (this constitute as alignment of channels). Therefore, it is obvious to one of ordinary skill in art to implement the alignment teaching by Feller in the system of Pozzuoli. By doing so, detect phase offset of signals and provide more reliably and stable communication system.

***Allowable Subject Matter***

9. Claims 6-15 are allowed.

10. The following is an examiner's statement of reasons for allowance:

None of the prior art teaches or suggests a communication system comprises first and second relays utilizing a first and second communication channel. The first

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relay comprising: a local sample circuit configured to generate a local stream in response to receipt of an electrical current signal from a local power line portion; a first processing circuit coupled to the local sample circuit and the first communication channel, it is configured to align, filter and compare the local stream and a first remote stream from the second relay to generate a first logic value; a second processing circuit coupled to the local sample circuit and the second communication channel; a selection logic circuit operatively coupled to the first and second processing circuits, the selection logic circuit configured to determine a control signal based on the first channel status and the second channel status, the control signal applied to an output contact of the first relay.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

**11. THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the



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shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eva Y Zheng whose telephone number is 571-272-3049. The examiner can normally be reached on M-F, 7:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eva Yi Zheng  
Examiner  
Art Unit 2611

February 2, 2007

  
CHIEH M. FAN  
SUPERVISORY PATENT EXAMINER